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On two new species of *Oreotlos* Ihle, 1918 (Crustacea Decapoda, Brachyura, Leucosiidae) from French Polynesia

by Cheryl G. S. Tan and Peter K. L. Ng

Abstract. — Dredging in French Polynesia at depths of 101 and 140 m has resulted in the capture of 2 specimens of *Oreotlos* belonging to two new species, *O. encymus* and *O. potanus*, which are described in this paper.

Résumé. — Des dragages faits en Polynésie française, à 101 et 140 m de profondeur, ont permis la capture de deux spécimens du genre *Oreotlos* appartenant à deux espèces nouvelles, *O. encymus* et *O. potanus*, qui sont décrites dans cette note.

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The genus *Oreophorus* Rüppell, 1830 (with three subgenera, *Oreophorus* s. str., *Oreotlos* Ihle, 1918, and *Tlos* Adams & White, 1848) (sensu Ihle, 1918), with 13 described species, has some of the most unusual taxa in the family Leucosiidae. Revisions of the genus currently in progress show that the genus is heterogeneous in composition and should be split into several genera including new ones, with a large number of undescribed species from various parts of the Indo-West Pacific. Through the courtesy of Dr Alain Crosnier (Institut Français de Recherche Scientifique pour le Développement en Coopération, ORSTOM), the authors recently had an opportunity to examine several specimens of *Oreophorus* s. lato collected from French Polynesia (Marquesas Islands) by Dr Joseph Poupin, Service Mixte de Contrôle Biologique des Armées (SMCB), on board of the R.V. "*Marara*". The specimens belong to two distinct species, both of which are undescribed.

The present paper serves to describe these two new species, here named *Oreotlos encymus* and *Oreotlos potanus*. The generic system used here follows the authors' unpublished revision of *Oreophorus* s. lato, in which *Oreotlos* is recognised as a distinct genus. The abbreviations G1 and G2 are used for the male first and second pleopods respectively. The way the specimens are tilted affects their appearance in diagrams (particularly the frontal region) and is a potential cause for misidentification. Thus, in this paper, specimens were drawn with the abdomen parallel to the horizontal plane and with the anterior slightly tilted downwards to show the form of the front. Measurements (in millimeters) are of the carapace length and width respectively. The specimens are deposited in the Muséum national d'Histoire naturelle (MNHN), Paris, France.

Oreotlos encymus sp. nov.
(Fig. 1-2)

MATERIAL. — Holotype male, 9.5 by 13.3 mm; paratype male, 7.1 by 10.3 mm (MNHN), récoltes SMCB, French Polynesia, Marquesas Islands (Nuku Hiva Island), st. D 83, 8°47.60′ S, 140°05.00′ W, dredged, depth 140 m; leg. J. POUPIN, 25 January 1991.

DIAGNOSIS

Holotype male. Carapace 1.4 times broader than long, regions not well-defined; dorsal surface covered with small round granules; three to four larger granules on dorsal surface directly posterior to the hepatic angle; short, shallow oblique groove on ventral surface posterior to sub-hepatic angle; shallow longitudinal groove lined with granules on region posterior to orbit, marking inner boundary between hepatic and gastric regions, groove extending posteriorly to two-thirds length of carapace, small longitudinal clump of large granules on median line between grooves; branchial regions swollen, covered with irregular ridges of large granules, small patch of large granules anterior to branchial humps, large prominent central granule on median line between branchial humps; shallow, irregularly shaped, granule-lined groove on either side of cardiac region, separating cardiac region from rest of carapace, central longitudinal clump of large granules in centre. Front with shallow depression directly after median fissure; margin of hepatic region protruded to form an angle two-thirds from the front, corresponding angle ventrally in the sub-hepatic region, large granules clustered at apices of both angles, posterolateral border beside cardiac region slightly protruded to form obtuse angle with large granules at and around apex; posterior margin lined with large granules. Basal segment of antennule occupies three-quarters of fossa when closed; basal segment of antenna linked to orbital fossa only by means of a short groove; short groove also links antennulary fossa to orbital fossa.

Third maxillipeds densely covered with granules; merus with pointed apex, outer edge forms obtuse angle one-third down from apex; ischium 1.9 times longer than merus along inner margin.

Fingers of chelipeds 1.6 times longer than palm; immovable finger with two parallel transverse rows of small granules on outer surface; outer surface of palm with scattered large granules; cutting edge toothed with large triangular teeth throughout.

Central portion of anterior edge and entire posterior edge of merus of last pair of legs lined with row of large granules; posterior half of outer surface of propodus with clump of large granules; dactylus stout, covered with small granules.

Male abdomen entirely covered with small flat granules; median large granule and median small clump of large granules on segment 4, segment 5 with two large granules on median line, large granule on basal median portion of segment 6; segment 7 tapering gradually to apex, narrower and slightly longer than segment 6 measured along median line.

G1 stout, straight, tapering gradually to apex, distal third sparsely covered with short hairs, rest of G1 glabrous; apex simple with oval, funnel-shaped opening.

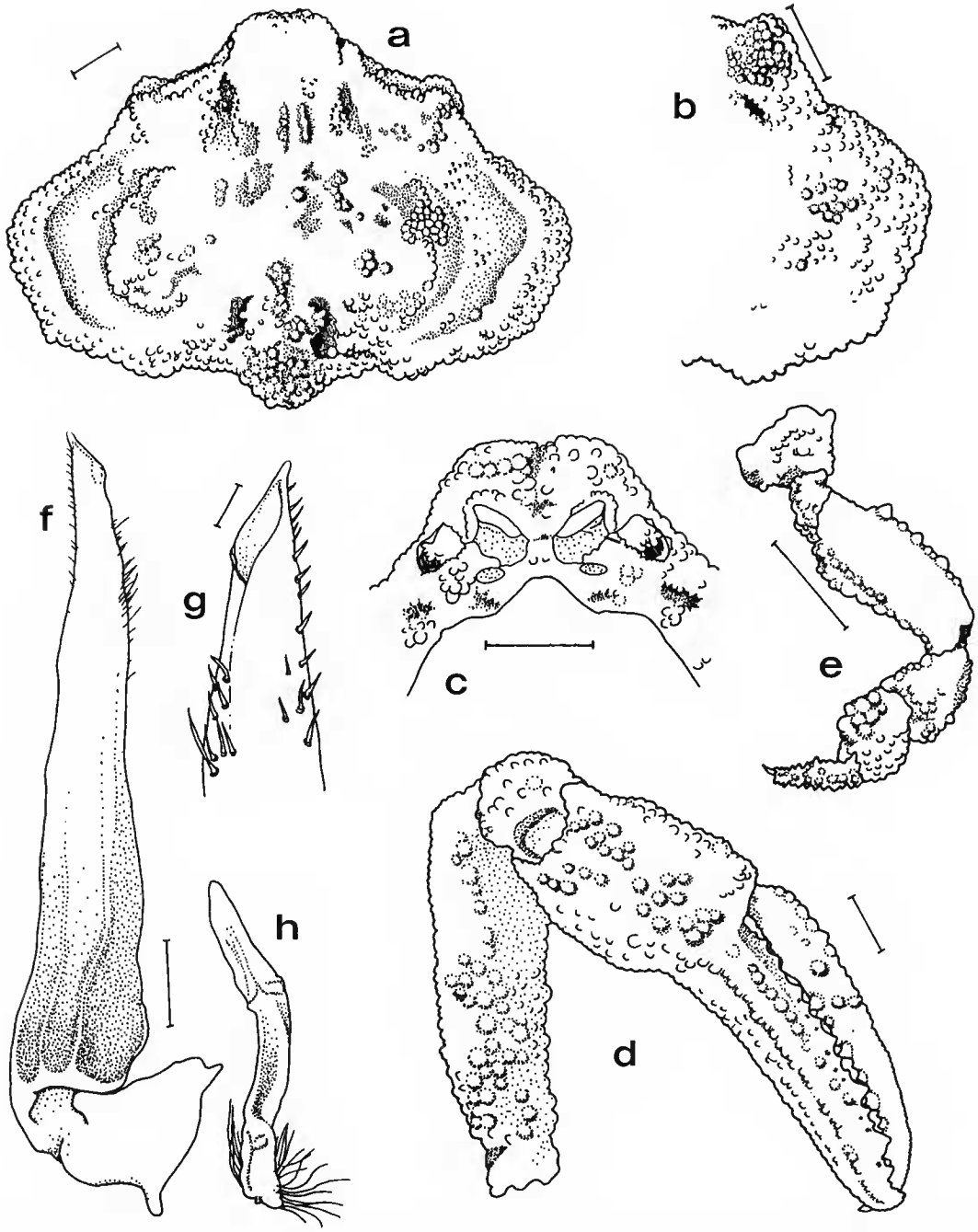

FIG. 1. — *Oreotlos encymus* sp. nov., holotype male, 9.5 mm by 13.3 mm : a, carapace dorsal surface ; b, left branchiostergite region : c, frontal view ; d, right cheliped outer surface ; e, right last leg upper surface ; f, right G1 ; g, apex right G1 ; h, right G2. Scales : a-f, h = 1.0 mm ; g = 0.1 mm.

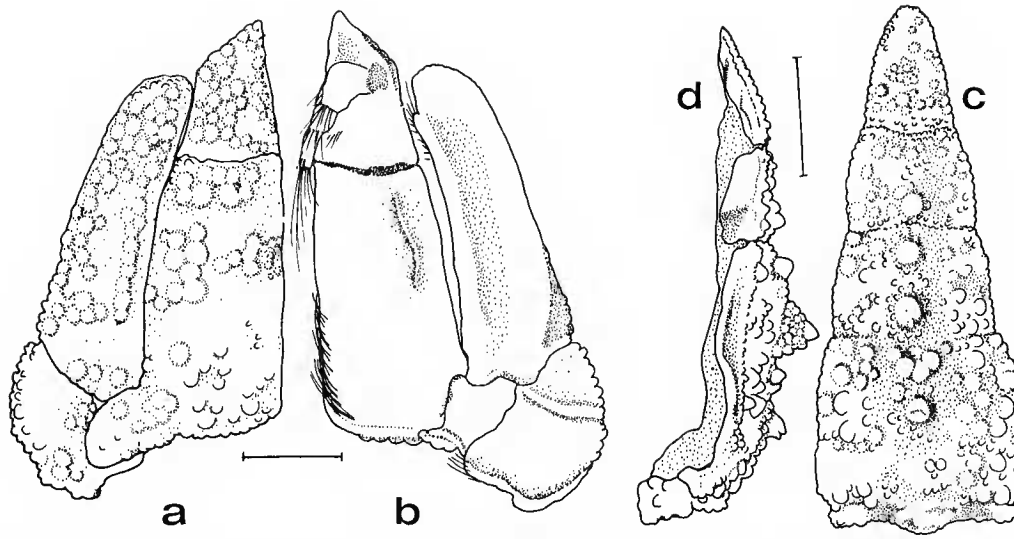

FIG. 2. — *Oreotlos encymus* sp. nov., holotype male, 9.5 mm by 13.3 mm : a, right third maxilliped outer surface; b, right third maxilliped inner surface; c, abdomen; d, abdomen side view. Scales : a-d = 1.0 mm.

REMARKS

This species is close to *Oreotlos speciosus* (Chen, 1989) regarding the general shape of the carapace and the form of the male gonopods. The authors have examined the female holotype of *O. speciosus*, and also several specimens of the species (including males) from New Caledonia. The carapace of *O. encymus* is more distinctly granular, with very distinct patches of large granules on the carapace, particularly on and near the branchial regions. These distinct patches are absent in *O. speciosus*. The sub-hepatic angle in *O. encymus* is also proportionately larger (relative to the carapace) compared to that in *O. speciosus*. This is largely due to the more abundant granulation on *O. encymus*. The outer surface of the palm of the chela in *O. encymus* is also more granular and less swollen than in *O. speciosus*. In addition, the male abdomen in *O. speciosus* is proportionately wider compared to that of *O. encymus*. These differences are valid for specimens of equivalent sizes and similar sexes for both species. The G1 and G2 in *O. encymus* differ little from those in *O. speciosus* and are of little use as distinguishing characters.

ETYMOLOGY. — The Greek " encymon " used here means " pregnant ". This is to denote the rounded and swollen appearance of the carapace of this species.

Oreotlos potanus sp. nov.
(Fig. 3)

MATERIAL. — Holotype female 7.3 by 12.2 mm (MNHN), récoltes SMCB, French Polynesia, Marquesas Islands (Eiao Island), st. D 75, 7°59.00' S, 140°44.05' W, dredged, depth 101 m; leg. J. POUPIN, 19 January 1991.

DIAGNOSIS

Holotype female. Carapace 1.6 times broader than long, regions not well-defined; lateral expansions smooth, plate-like and shallowly concave; closed fissure posterior to hepatic angle extending slightly into dorsal surface of carapace, shallow, granule-lined groove encircling subhepatic angle correspondingly, forming semi-circular line ending at edge of buccal cavern; shallow longitudinal groove lined with tiny granules on region posterior to orbit, groove extends posteriorly to one-quarter length of carapace, edge of median keel sharp, keel extends posteriorly to one-third length of carapace, small granules on either side, two short, oblique ridges of three large granules immediately after keel; branchial regions raised, rounded in cross-section and covered with large granules, posterior half of branchial regions sloping sharply down posteriorly, not concave; two large prominent granules in centre of carapace, between branchial regions; very shallow, median depression present at posterior end of cardiac region, tapering in width anteriorly; deep, irregularly shaped, granule-lined groove on either side separating cardiac region from rest of carapace, grooves extending anteriorly from posterior margin to one-quarter length of carapace. Front moderately bilobed, without granulated groove when viewed from the front, dorsal surface with shallow rounded depression between frontal lobes; anterior, anterolateral and posterolateral margins lined by raised granules with pointed apices, conferring a scalloped appearance; margin of hepatic region protruded to form an obtuse angle tipped with 3-5 large, raised pointed granules one-third from the front, anterior edge of subhepatic angle with row of smaller granules, larger granules clustered at apex, making sub-hepatic angle much more prominent than hepatic angle; posterolateral border beside cardiac region almost straight; posterior margin lined with large granules. Basal segment of antennule occupies half of fossa; fossa linked to orbital fossa by means of a short groove; short groove also links basal segment of antenna to orbital fossa.

Outer surface of third maxillipeds covered with granules, inner surface smooth and glabrous; merus with pointed apex, outer edge slightly convex; ischium 2.1 times longer than merus along inner margin, proximal third of inner edge with long hairs, larger granules on distal two-thirds of ischium.

Fingers of chelipeds 1.2 times longer than palm; inner surface of immovable finger with two transverse rows of small granules, a third shorter row of granules extends from distal two-thirds to tip of finger; inner surface of palm with scattered large granules.

Both anterior and posterior edge of merus of last pair of legs lined by large granules with smaller ones distally; dactylus thin, longer than propodus and covered with small granules.

Abdominal segments moderately covered with large granules, sutures between segments 3-4 and 5-6 visible only in median region, rest of sutures not visible.

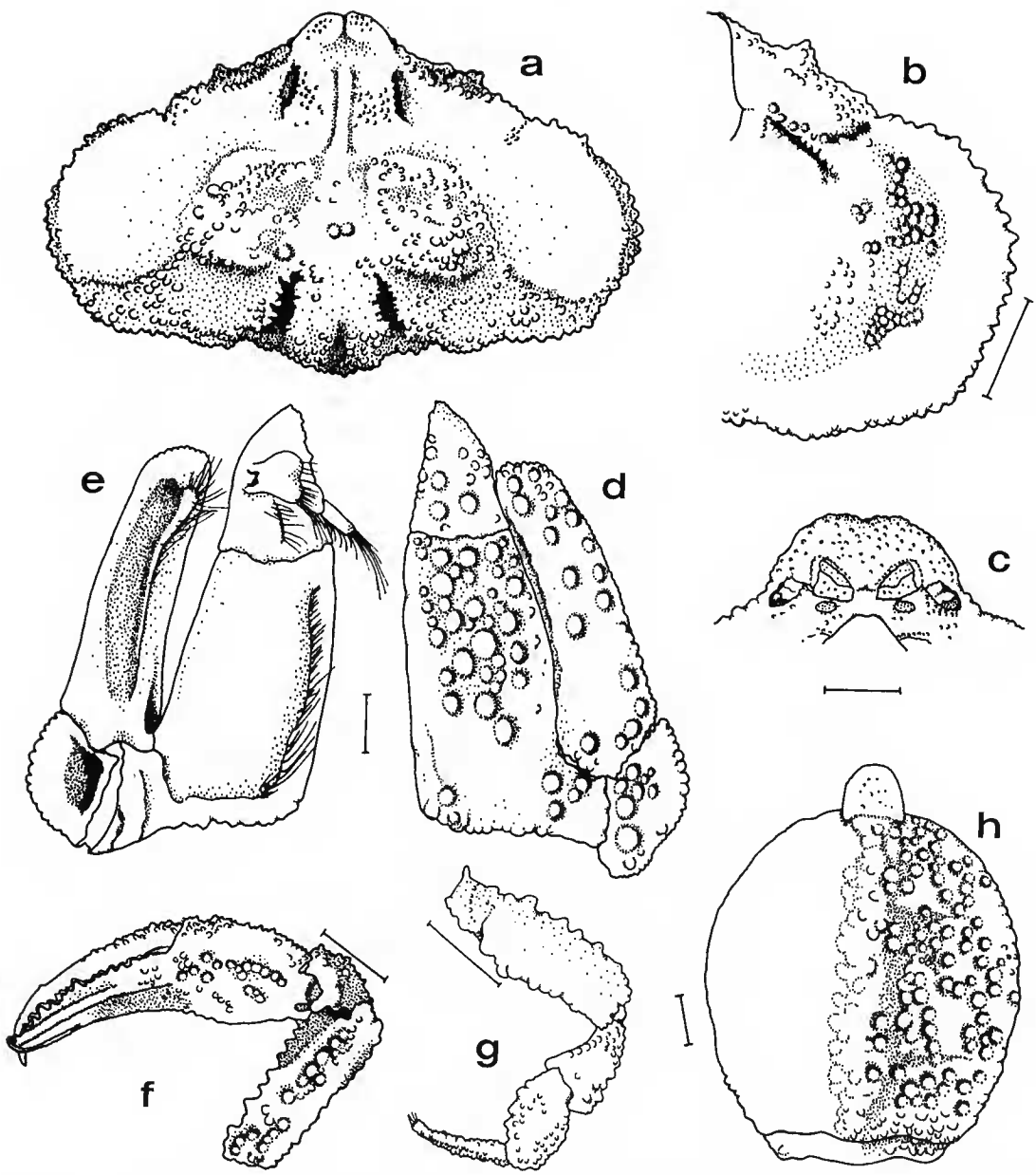

FIG. 3. — *Oreotlos potanus* sp. nov., holotype female, 7.3 mm by 12.2 mm : a, carapace dorsal surface; b, left branchiostergite region; c, frontal view; d, right third maxilliped outer surface; e, right third maxilliped inner surface; f, left cheliped outer surface; g, right last leg upper surface; h, abdomen. Scales = 1.0 mm.

REMARKS

This species closely resembles *Oreotlos havelocki* (Laurie, 1906) in possessing smooth, plate-like lateral expansions of the carapace and in the granulated posterior portion of the branchial region. *Oreotlos havelocki* was described under the genus *Tlos* by LAURIE (1906) and IHLE (1918) and SERÈNE & UMALI (1972) retained the species in *Tlos* without much comment. The re-examination of the type male and two male specimens from Madagascar however, indicates that the species is not allied to *Tlos* s. str., differing from the type species, *T. muriger* Adams & White, 1848, substantially in the form and sculpturation of the carapace, structure of the antennal basal segment and G1 (unpublished data). The general characters of *T. havelocki* fit much better into the redefined genus *Oreotlos* (unpublished data) and is hence transferred there.

Oreotlos potanus differs from *O. havelocki* most clearly in the form of the branchial regions. In *O. havelocki*, the branchial regions are raised, laterally compressed, with angular margins and flattened at the top which resembles a "granulated plateau". These regions are rhomboidal in cross-section and connected in the centre by a narrow horizontal granulated ridge. In *O. potanus*, the branchial regions are not laterally compressed, without any obvious "plateau", rounded in cross-section and the two regions are not connected by a central ridge. The region posterior to and between the branchial regions in *O. potanus* is slightly convex and only slightly lower than the branchial regions, and not "sunken in" and concave as in *O. havelocki*. Unfortunately, the gonopod structures of the two species cannot be compared as *O. potanus* is only known from one female specimen. The external differences observed however, are of a nature which cannot be ascribed to mere variation, and there can be little doubt that the two species are distinct.

The two species, *O. havelocki* and *O. potanus*, are the more unusual members of the genus *Oreotlos* in that they possess smooth plate-like lateral expansions of the carapace. In typical *Oreotlos*, the carapace is more obviously granular and without plate-like expansions (unpublished data). Whether the differences observed here warrant generic (or subgeneric) distinction can only be resolved when specimens, especially males of *O. potanus*, become available.

ETYMOLOGY. — "Potanos" is Greek for "winged, flying". It is used to describe the wing-like lateral expansions of the animal's carapace.

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